

Abstract of the Disclosures:

A variable optical attenuator comprises an incoming fiber for
5 propagating an incoming light beam, a mirror for reflecting the incoming
light beam as a reflected light beam and an outgoing fiber for propagating
as an outgoing light beam at least one part of the reflected light beam.
The light intensity of the outgoing light beam is determined by the angle of
reflection at the mirror. The angle of reflection at the mirror is adjusted
10 by an actuator for rotating the mirror. The actuator comprises a plate, a
coil, a housing and permanent magnets. The mirror and the coil are fixed
on the plate. The housing supports the plate so that the plate is able to
rotate around a rotation axis, which is included on a predetermined plane.
The permanent magnets are fixed on the housing and generate
15 predetermined magnetic flux density along the predetermined plane.
When a driving current is supplied to the coil under the predetermined
magnetic flux density, a Lorentz force occurs at the coil so as to rotate the
coil. Together with the coil, the mirror rotates so that the light intensity of
the outgoing light beam can be adjusted.